

Remarks

Thorough examination by the Examiner is noted and appreciated.

The Specification has been amended to correct grammatical errors.

The claims have been amended and new claims added to clarify Applicants disclosed and claimed invention. The amendments find support in the original claims and/or the Specification.

No new matter has been added.

Claim Rejections under 35 USC 112, second paragraph

Claim 1 has been amended to provide appropriate antecedent basis to overcome Examiners rejection.

Claim Rejections under 35 USC 102(b)

1. Claims 1-8 stand rejected under 35 USC Section 102(b) as being anticipated by Hung et al. (US 6,380,096).

Hung et al. disclose a method for forming a dual damascene process where following formation of a via opening, it is disclosed that an organic BARC layer may be spun on over the via

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opening substantially filling the via opening (see Figure 7, item 112; col 9, lines 14-22). A resist layer is then formed over the organic BARC layer and a trench opening etching pattern is formed in the resist layer.

Hung et al. does not disclose Applicants a first photoresist layer to include filling the via opening; followed by formation of a second photoresist on the first photoresist to form a trench opening etching pattern; followed forming a via plug.

Hung et al. is clearly insufficient to anticipate Applicants disclosed and claimed invention. Examiner argues that the BARC layer (112) is inherently a photoresist layer since used in a photolithographic process. Applicants reject Examiners claim of inherency which is unsupported by Examiner and in fact refuted by the disclosure of Hung et al. where layer 112 is taught to alternatively be deposited by CVD (col 9, line 19), impliedly a dielectric material, but clearly not a photoresist.

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

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"The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

"To establish inherency, the extrinsic evidence must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill." *In re Oelrich*, 666 F.2d 578, 581-582, 212 USPQ 323, 326 (CCPA 1981).

Claim Rejections under 35 USC 103

Claims 9-20 stand rejected under 35 USC Section 103(a) as being unpatentable over Hung et al., in view of Ma et al. (US 6,764,810).

Statement of Common Ownership Pursuant to 35 USC 103(c)

Applicants' attorney of record states that Ma et al. and Applicants instant application were, at the time the invention was made, commonly owned by Taiwan Semiconductor Manufacturing Company. Therefore, Examiners use of Ma et al. as a reference in a 103(a) rejection appears to be improper under 35 USC §103(c).

However, assuming *arguendo* that Ma et al. may be properly be used as a reference in a rejection under 103(a), Applicants

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respectfully traverse Examiner's rejection under 35 U.S.C. 103(a).

Applicants reiterate the comments made above with respect to Hung et al.

Ma et al. is different from Applicants disclosed and claimed invention in several ways. First Ma et al., disclose forming a via plug **prior to** forming an overlying trench photoresist (see Figures 1E, 1D; col 5, lines 47-56), thereby first removing the via plug photoresist overlying the process surface (thereby teaching away from Applicants disclosed and claimed invention). In addition, Ma et al. disclose using the **same photoresist** for both the via plug (first photoresist) and the trench patterning photoresist (second photoresist) layer (col 5, lines 30-34).

The combination of Ma et al. and Hung et al., assuming *arguendo*, proper motive for combination, does not produce Applicants claimed invention. Moreover, the cited references, alone or in combination, operate by a different principal of operation with respect to one another and with respect to Applicants disclosed and claimed invention.

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"Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure." *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

"A *prima facie* case of obviousness may also be rebutted by showing that the art, in any material respect, teaches away from the claimed invention." *In re Geisler*, 116 F.3d 1465, 1471, 43 USPQ2d 1362, 1366 (Fed. Cir. 1997).

"A prior art reference must be considered in its entirety, i.e., as a whole including portions that would lead away from the claimed invention." *W.L. Gore & Associates, Inc., Garlock, Inc.*, 721 F.2d, 1540, 220 USPQ 303 (Fed Cir. 1983), cert denied, 469 U.S. 851 (1984).

"If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious." *In re Ratti*, 270 F.2d 810, 123, USPQ 349 (CCPA 1959).

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Based on the foregoing, Applicants respectfully submit that the Claims are now in condition for allowance. Such favorable action by the Examiner at an early date is respectfully solicited.

Attached is a Credit Card Payment Form in the amount of \$200.00 to cover the fee for the 4 extra claims. Should any further fee be due, the Examiner is hereby authorized to charge Deposit Acct. No. 50-0484 any such fee.

In the event that the present invention as claimed is not in a condition for allowance for any other reasons, the Examiner is respectfully invited to call the Applicants' representative at his Bloomfield Hills, Michigan office at (248) 540-4040 such that necessary action may be taken to place the application in a condition for allowance.

Respectfully submitted,

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